MAIL STOP APPEAL BRIEF
Attorney Docket 0515-1031
PATENT

IN THE U.S. PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of	Appeal No.
Robert ANDRE et al.	Conf. 9542
Application No. 09/914,181	Group 1733
Filed December 7, 2001	Examiner Jeff Aftergut

TITLE PROCESS FOR THE PRODUCTION OF AN ACOUSTICALLY ATTENUATING PANEL WITH A RESISTIVE LAYER WITH STRUCTURAL PROPERTY AND PANEL THUS OBTAINED

APPEAL BRIEF

MAY IT PLEASE YOUR HONORS: April 24, 2006

(i) **Real Party in Interest**

The real party in interest is the assignee, AIRBUS FRANCE, a manufacturer of aircraft and parts thereof.

(ii) **Related Appeals and Interferences**

None.

(iii) **Status of Claims**

All of the claims have been rejected. Claims 1-8 were canceled and the appeal will not be pressed as to claims 17 and 18 (although these may subsequently be made the subject of a divisional application). Thus, the claims on appeal are 9-16.

(iv) **Status of Amendments**

No amendment was filed subsequent to final rejection. Thus, the claims on appeal are as finally rejected.

(v) **Summary of Claimed Subject Matter**

The claimed subject matter is a process for the production of an acoustical attenuating panel. The panel has four parts:

1. A layer with structural properties, shown for example at 1a in our Fig. 1 (the other figures showing modifications that, as far as the present appeal, need not be separately considered).

2. A layer with acoustical properties, shown for example at 1b in our Fig. 1.

3. A cellular structure, shown for example at 2 in our Fig. 1.

4. A reflector shown for example at 3 in our Fig. 1.

All such layers are known in the art in various combinations and arrangements.

In a nutshell: The present invention differs from the prior art by forming 1a on a mold before anything else is done.

There are two basic claims, claims 9 and 10, which differ from each other immaterially as to the way in which this is done (claim 9 by laying filaments, claim 10 with piercing). We do not assert separate patentability for claim 9 versus claim 10, or vice versa, nor for any of the dependent claims. Thus, the claims stand or fall together.

The advantage over the prior art, of forming a porous layer 1a with structural properties (whether the pores are produced by laying spaced fibers or by piercing) before anything else is done, is set forth on page 10, lines 1-19 of our specification.

(vi) **Grounds of Rejection to be Reviewed on Appeal**

There are two grounds of rejection set forth under Nos. 2 and 3 on page 2 of the final rejection of November 22, 2005. The Board is referred to these, and to the previous rejections to which they allude, for a concise statement thereof. We hesitate to paraphrase the rejections in any way, lest we change the Examiner's intended meaning.

(vii) **Argument**

In a nutshell: No reference of record nor any proper combination thereof discloses or suggests what we recited as the nutshell in (v) Summary of Claimed Subject Matter above.

In greater detail: The references applied by the Examiner teach one skilled in the art to place the structural porous layer on the acoustic mesh or acoustic layer, at the end of the process.

More specifically, the Examiner rejects claims 9, 11, 12, 14 under 35 USC 103(a) as being unpatentable over EP 897,174 in view of EP 911,803 and NEWSAM and optionally further taken with any of HORN, WHITEMORE et al. or BEGGS and refers to paragraph 2 of the Office Action dated February 14, 2005.

Considering the rejection over EP 897,174 in view of EP 911,803 and NEWSAM, it is believed that a skilled artisan would not consider applying a reinforcing layer constituted by filaments impregnated with a thermoplastic or thermosetting resin directly on a mold.

When starting from the description of Figs. 7A to 7E of EP '174, the skilled artisan:

1 - starts building an acoustic panel by emplacing an acoustically damping cloth on a mold,

2 - continues by winding reinforcing filaments on the acoustically damping cloth,

3 - applies a honeycomb core on the reinforcing filaments, and,

4 - completes the panel by applying a total reflector.

If the artisan tries to apply the teachings of EP '803 the choice is:

A - column 2 paragraph [0011]:

1 - to start building an acoustic panel by bonding a honeycomb core structure on a solid backface sheet,

2 - to continue by bonding a perforated sheet on the other side of the honeycomb core structure,

3 - and finally covering the perforated sheet with a mesh structure

or

B - column 3 paragraph [0012]:

1 - to start building the panel by bonding a honeycomb core structure on a solid backface sheet,

2 - to continue by bonding a mesh structure on the other side of the honeycomb core structure,

3 - and finally covering the mesh structure perforated sheet with a perforated sheet.

Neither '174 nor '803 teaches or suggests to first put reinforcing filaments on a mold and then to put the acoustic liner above such filaments.

Draping, winding or wrapping a layer of filaments on a mold as a first step and then covering such layer with a layer with acoustic properties is not a process which would have been obvious when starting from '174 in view of '803 since the clear benefit from '803 is to start the process with the backface sheet as a base and then to build the successive layers above such backface sheet.

The process of the present invention would not have been obvious when starting from '803 in view of '174 since it appears necessary in '803 to put the perforated sheet above all other layers at the end of the manufacturing process and since '174 covers the acoustic layer, already on the mold, by the reinforcing layer. The mold in '174 gives a solid support surface to the acoustic layer which is then sandwiched during manufacturing between the mold and the reinforcing layer.

The question with respect to the process claims is how the skilled artisan would have reasonably found any benefit in emplacing a reinforcing layer on a mold in the first place.

No reason is given in the prior art for such a process and it is non-obvious to switch the placement of the layers in '174 simply because in '174 the filaments are pressed on the acoustic layer which is supported by the mold and because it does not appear obvious that putting such acoustic layer on filaments already on a mold may be able to reinforce the acoustic layer.

Furthermore, and with respect to '803, the invention described in this document concerns inlet cowl panels.

These parts have relatively simple surfaces (conical or cylindrical surfaces which may be developed). These surfaces allow the use of metallic materials (aluminum or steel).

The present invention relates to the manufacture of engine inlet cowls including the lips of such inlets.

In '174 (column 2, lines 20 to 32) it is explained that such metallic materials cannot be used in the manufacture of engine air inlets because such inlets may have complex shapes (surfaces which cannot be developed) for which rigid materials, which do not bend, cause aerodynamic bulges resulting in acoustic non-homogeneous properties of the surface and reduced acoustic absorption characteristics (see also column 8 paragraph [0076]).

None of the other references, applied or of record, would teach or suggest the missing teaching pointed out above.

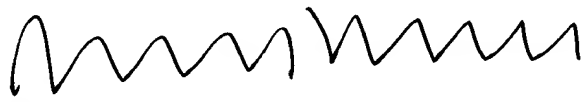
Finally, please re-read page 10, lines 1-19 of our specification, and ask yourselves wherein the prior art this teaching is to be found.

In view of the above explanations it is believed that claims 9, 10 and the claims dependent from such claims, are patentable over the prior art.

Reversal of the rejections of record and allowance of all the claims, are accordingly respectfully requested.

Respectfully submitted,

YOUNG & THOMPSON



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Enclosures: Claims Appendix

(viii) Claims Appendix

9. Process for the production of an acoustical attenuating panel comprising a cellular structure covered on one side with a reflector and on the other side with an acoustically resistive layer with two components respectively with an acoustical property and with a structural property, which process comprises the following steps:

- emplacing on a mold of a shape appropriate to the panel to be obtained, a layer with structural properties, constituted by filaments pre-impregnated with a thermoplastic or thermosetting resin, by draping, winding or wrapping said filaments while spacing the latter, such that said layer has a quantity of open surface of the order of 30% of the total surface of the exposed layer,

- emplacing from above the layer with structural properties, a layer with acoustical properties, constituted by a microporous cloth of mineral or organic fibers a thickness of the order of a tenth of that of the layer with structural properties;

- then emplacing the cellular structure and the reflector, and

- performing at least one step of baking in an autoclave at the end of at least one of the said steps of emplacing.

10. Process for the production of an acoustical attenuating panel comprising a cellular structure covered on one

side with a reflector and on the other side with an acoustically resistive layer with two components respectively with an acoustical property and with a structural property, which process comprises the following steps:

- emplacing on a mold of a shape appropriate to the panel to be obtained, a layer with structural properties, constituted by filaments pre-impregnated with a thermoplastic or thermosetting resin, by draping, winding or wrapping,

- baking said layer in an autoclave,

- then piercing said layer while still on the mold, such that the layer has a quantity of open surface of the order of 30% of the total surface of the exposed layer,

- emplacing from above the layer with structural properties, a layer with acoustical properties, constituted by a microporous cloth of a thickness of the order of a tenth of that of the layer with structural properties;

- then emplacing the cellular structure and the reflector, and

- performing at least one step of baking in an autoclave at the end of said emplacing of said layer with acoustical properties.

11. Process according to claim 9, wherein the layers with structural properties and with acoustical properties are assembled with the interposition of a cross-linking adhesive and

subjected to baking in an autoclave, then the assembly is assembled with the structure with a cellular core and with the reflector, with the interposition of a cross-linking adhesive, and subjected to a further baking in an autoclave.

12. Process according to claim 9, wherein the layer with structural properties is constituted by several layers of crossed filaments.

13. Process according to claim 10, wherein the pierced holes of the layer with structural properties have a diameter greater than the thickness of said layer and their external opening is flared.

14. Process according to claim 9, further comprising disposing an adhesive between the layer with structural properties and the layer with acoustical properties, and between the layer with acoustical properties and the cellular structure.

15. Process according to claim 10, wherein the layer with structural properties is constituted by several layers of crossed filaments.

16. Process according to claim 10, further comprising disposing an adhesive between the layer with structural properties and the layer with acoustical properties, and between the layer with acoustical properties and the cellular structure.

17. A panel produced by the process of claim 9.

18. A panel produced by the process of claim 10.

(ix) **Evidence Appendix**

None.

(x) **Related Proceedings Appendix**

None.